

MEMORANDUM

October 17, 2013

To: Utah Board of Oil Gas and Mining

From: Steve Alder,
Assistant Attorney General

Re: October 23, 2013 Board Hearing Memorandum
In the Matters of:
Bill Barrett Corporation, Docket 2013-033 Cause No. 131-135;
Newfield Production Co., Docket No. 2013-027, Cause No. 1339-109;
Newfield Production Co., Docket No 2013-28 Cause No. 139-110;
Axia Energy LLC, Docket No. 2013-030, Cause No. 270-02

I. Introduction

This memorandum addresses issues regarding well siting and requirements for approval of directional drilling and exception locations that are raised by the four RAA referenced above and set for hearing this month. These matters also involve distinctions between siting rules for horizontal and vertical wells. Since the issues are related, and the analysis overlaps and applies to each case to lesser or greater degree, the Division has elected to address all of the docketed matters in one memorandum.

II. Analysis and Discussion

Overview of spacing and well siting rules

The Utah Oil and Gas Conservation Act defines correlative rights as the “opportunity of each owner in a pool to produce his just and equitable share of the oil and gas in the pool without waste” Utah Code § 40-6-2(2). The Utah Supreme Court has ruled that correlative rights do “not give a mineral interest owner an absolute right to all of the oil or gas under one’s land.” *Cowling v. Board of Oil, Gas and Mining*, 830 P.2d 220, at 225 (1991). Rather, the right protected by the Act is a ‘opportunity’ to produce a ‘just and equitable’ share of oil and gas ‘without waste’. *Hegerty v. Board of Oil, Gas and Mining*, 57 P.3d 1042 , at 1050 (2002). This “opportunity” is protected by “authorizing the board to limit a land owners right to drill as many wells and in whatever locations on its land as the landowner chooses” *Cowling* at 225. “Once the Board fixes the size of the drilling units in a field ‘the drilling of any well into the pool at a location other than authorized by the order is prohibited.’ Utah Code § 40-6-6(4)”. *Id.*

The spacing statute requires that a drilling order “specify the location of the well in terms of distance from drilling unit boundaries and other wells” but does not set any

minimum distances. Utah Code § 40-6-6(5)(d). There are also no administrative rules addressing the required distances for a set back from the boundary for a drilling unit. Arguably the Board is free to establish any set back distance or provide any additional conditions on the location of a well in a drilling unit.

A drilling unit is required to be an estimated area that is “no smaller than the maximum area that can be efficiently and economically drained by one well.” Utah Code § 40-6-6(3). A drilling unit may be, and often is larger than such an estimated area in an attempt to err on the side of caution (additional wells can always be drilled but a drilled well cannot be removed) or for other reasons (drilling units allow control of development and pooling). Therefore, although a well location would be expected to be near the center of the perfectly sized drilling unit, a set back may be needed, as an added precaution, to protect correlative rights of the owners of the adjoining mineral.

Notice to the owner of the adjacent mineral is not required when seeking a spacing order. The drilling unit is expected to be of such size as to prevent the production of minerals located outside of the drilling unit boundary, and so no notice is required for spacing. The set back provides secondary protection for owners of correlative rights that have not been given notice of the spacing hearing.

A. Directional Drilling Rules

The rule permitting directional drilling states:

“1. Except for the tolerances allowed under R649-3-10¹, no well may be intentionally deviated unless the operator shall first file application and obtain approval from the division.”

1.1 An application may be approved by the division without notice and hearing [by the board] when the applicant is the owner of all the oil and gas within a radius of 460 feet from all points along the intended well bore, or the applicant has obtained the written consent of the owner to the proposed directionally drilling program.” R649-3-11(1) and (1.1)

The rule applies to all directionally drilled wells regardless of when they enter a production zone. It was likely drafted in a conservative manner to allow for unexpected production that may occur outside of the intended productive zone (a productive zone is not always identified in advance and even if one is, it is not always as expected).

¹ R649-3-10 requires vertical wells to remain within the 400 foot drilling window for their entire length. It provides “(1) Deviations from the vertical for short distances is permitted in the drilling of a well without special approval to straighten the hole, sidetrack junk, or correct other mechanical difficulties. (2) All wells shall be drilled such that the surface locations of the well and all points along the intended well bore shall be within the tolerances allowed by R649-3-2 , . . . , or the appropriate board order.

B. Exception Location Rule

When a vertical well is proposed to be drilled outside of the window established by the drilling unit order; i.e., within the set back from the drilling unit boundary, the exception location rule (R649-3-3)² is applicable. It requires division approval and consent of the owners of “the directly or diagonally offsetting drilling units”. If there is not consent, the rules allows for an order of the Board which requires notice to the owners of such units and an opportunity for hearing. If the adjoining area is not spaced, consent is required from owners within 460 feet of the well site, or if not possible, the an order of the Board after notice to those owners. R649-3-3(1)(.2) and (1.3)

Although the language in the exception location rule does not expressly state if the rule applies to the surface location or the bottom hole location, in fact the rule must apply to both locations, since only a small tolerance is allowed for deviations from a true vertical path by R649-3-10. The only other way to have a difference between a surface and bottom hole location is by directional drilling which, as has been discussed, also requires written consent or a board order.

C. Horizontal Well Siting Rules

A horizontal well is similar to a directionally drilled well in that it also requires a deviation from the vertical and involves targeting of a productive interval at a location different from the surface location. However, there are also differences: directional wells are not drilled horizontally, do not necessarily involve a target formation, and are more likely than horizontal wells to be completed uphole, and to produce from more than one productive zone. Most importantly, the two types of wells are governed by different temporary spacing and siting rules adopted for different reasons.

A horizontal well is defined. It is a well that has “a well bore drilled laterally at an angle of at least eighty (80) degrees to the vertical or with a horizontal projection exceeding one hundred (100) feet measured from the initial point of penetration in to the productive formation through the terminus of the lateral in the same common source of supply.” R649-1-1 Directional drilling is not defined. As discussed above, directional drilling includes any well that is not drilled within the vertical well tolerances allowed by R649-3-10. Most importantly, directional wells are not drilled with the intention of following a formation horizontally.

²“The division shall have the administrative authority to grant an exception location to the locating and siting requirements of R649-3-2 or an order of the board establishing oil or gas well drilling units after receipt from the operator of the proposed well of the following items: . . . (1.2) Written consent from all owners within a 460 foot radius of the proposed well location when the exception is to the requirements of R649-3-2, or; (1.3) Written consent of all owners of the directly or diagonally offsetting drilling units when such exception is to an order of the board establishing oil or gas well drilling units.”

Establishing a drilling unit for a horizontal well is done under the same statutory provisions that govern determining drilling units for a vertical well. There are no special provisions. Each drilling unit is to be “no smaller than the maximum area that can be efficiently and economically be drained by one well.” The spacing order is to “specify the location of the well in terms of distance from the drilling unit boundaries and other wells” and after a drilling order has been entered “the drilling of any well into the pool at a location other than that authorized by the order is prohibited.” Utah Code § 40-6-6.

The temporary siting rules for horizontal wells designates one well within a 640 acres governmental section. R649-3-2(6). Although referred to as a temporary spacing unit, this term as defined makes clear that this rule is only intended to govern the location of the horizontal well. “ ‘Temporary Spacing Unit’ means a specified area of land designated by the board for purposes of determining well density and location” and “shall not be a drilling unit as provided for in U.C.A. 40-6-6 . . .” . R649-1-1.

The temporary siting rules for a horizontal well are different from the siting rules for a vertical well. Absent a spacing order, the *surface location* for a horizontal well may be at any location within the lease; and no portion of the *productive zone* of the horizontal well may be closer than 660 feet to a drilling unit boundary and 1320 feet from any vertical well. R649-3-2(3) and (4). Due to the nature of the horizontal well, the directional drilling rule does not apply.

Application of the exception rule to horizontal wells presents a new wrinkle due to the general rules restrictions on both the surface location and the point of entry into the productive zone. A strict reading of the exception location rule, it would require approval, if either the surface location or point of entry to the productive interval was to be outside of a location permitted the general rules. Thus any location of a horizontal well that is under the siting rules would require an exception location if the surface location were off-lease. However, when the horizontal well siting is provided for by an spacing order the Division has not required exception location approval for spacing orders permitting off-lease surface locations if the operator commits to cemented barriers³ preventing up-hole production, and if the operator commits that it will seek an exception location approval if it does later intend to produce uphole. In such cases the Division has accepted the operator’s self-certification that it has consent from the surface and mineral owners to drill the well at that location.

In these cases, there is a question as to whether the Board’s approval of the off-lease surface location requires prior notice and opportunity for hearing for the owners of the off lease mineral just as would be required for an exception location. The Petitioners however have argued that they merely need consent to drill the well, since no production is anticipated outside of the set back and if up-hole completion is proposed an exception location approval requiring notice or consent will be sought. This idea of deciding whether to requiring notice or consent depending on where the well will enter the productive zone is contrary to general siting rules for vertical wells but is consistent with

³ The outer casing along the heel of the non-producing interval of the well bore outside of permitted point of entry is cemented or will have cemented bottom-hole plugs or packers.

the rules for horizontal wells. The question of whether notice should be required has not been resolved. Notice has been given by Petitioners while arguing that it is not required. On the other hand the Division has required cementing down-hole packers and covenants not to produce uphole that would not be required for a surface location within the unit boundary, suggestion concern for protecting the adjoining owners' correlative rights. If such technical protections are required shouldn't notice also be required?

D. Providing for Deviation from the rules

The powers of the Board are set by statute and by its own rules. The Board is not permitted to grant relief even in pursuit of the general purposes of the Conservation Act that would be contrary to a statutory provision, or that would contradict a rule that has been adopted in accordance with its authorized powers and the Utah Rule Making Act. Therefore the RAA that asks the Board to determine that a rule will be inapplicable to certain wells as part of a spacing order must base the request on either statutory authority or a rule.

As noted above the language of Utah code § 40-6-6(5)(d) requires the Board to "specify the locations of the well in terms of distance from a drilling unit boundaries and other wells". Arguably, this statutory directive allows the board to override other well location rules for a drilling unit. Action taken pursuant to this statutory authority must still conform to the rest of the statutory provisions and rules that protect correlative rights or avoid waste, etc.

The rules do allow the Board to establish exceptions to the rules. The Scope of Rules provides:

(2) Special rules and orders have been and will be issued by the board when required and shall prevail as against the general rules and orders of the board if they conflict therewith.

(3) Exceptions to the general rules may also be granted by the director or authorized agent for good cause shown and shall prevail as against the general rule. Utah Admin. Rules R649-2-1

While it is doubtful that the Board could adopt a 'rule' without complying with the Rule Making Act and exceptions must still comply with statute, this rule allows for the Board to issue specific 'orders' that supersede general rules. The major question is if the rules violate statutory provisions enacted to protect correlative rights, prevent waste, or require specific actions.

III. Analysis of the Specific Requests for Agency Action

1. In the Matter of Bill Barrett Corporation, Docket 2013-033 Cause No. 131-135.

Bill Barrett Corporation has filed its Request for Agency Action 2013-0033, Cause No. 131-135 requesting the Board approve directional drilling for six wells within previously spaced lands. The proposed surface locations of some of these wells are within the set back of the drilling unit as established in the spacing order; i.e. they are closer than 460-feet from the adjoining drilling unit.

The Request states that: “the Division has recently stated its position that Utah Admin. Code Rule R649-3-11(1.1), requiring the written approval of all ‘owners’ within a 460-foot radius of all points along a directionally drilled well bore before an APD will be approved, is applicable even as relating to directionally drilled wells with productive intervals entirely within the drilling unit set backs established by Board order.” Paragraph 8, RAA. Petitioners allege that they have been unable to obtain the written consent of all owners and that some owners “have been unresponsive or are unlocatable despite BBC’s good faith efforts to located them”. BBC further avers that it will be required to “file numerous similar Requests for Agency Action in the upcoming months for similar reasons.” Paragraph 9, RAA.

To address the problem of having been unable to obtain the consent of all of the owners within 460 feet of the well bore Petitioners seek an Order “approving the direction drilling of the wells, with the caveat that, if an uphole completion closer that the existing set-backs is subsequently proposed, an exception location approved in accordance with Utah Admin. Code Ruled R649-3-3 (or subsequently enacted equitable regulation) will be required.” RAA Paragraph 3(a) of prayer for relief.

Petitioner’s proposed drilling locations actually present problems of compliance with the directional drilling rule and with the exception location rule. The Division does not necessarily disagree with the suggestion that correlative rights will most likely be protected *if* the well does not intercept the intended productive zone until it is within the required set back from the unit boundary, *and if* there is a stipulation that the operator will not make an uphole completion without obtaining an exception location approval. However, the directional drilling and the exception location rules do not include exceptions for such conditions and therefor the proposed wells require consent or (as in this matter) an order of the board after notice and opportunity for hearing.

R649-3-11(1.1) was not recently interpreted by the Division in some new way. The rule was approved by the Board prior to 1992. Petitioners have not pointed to prior occasions where the Division or the Board have interpreted the rule in a way that does not require the consent of all owners within 460 feet of the well bore for any reason, let alone for any of the reasons they propose. Although BBC suggests the Division’s opinion has required them to file this RAA, BBC does not argue for a different interpretation of the rule but rather allege that correlative rights are protected by the proposed drilling plan

and suggest that consent or hearing *should* not be required. This is an argument for a rule change, but that argument requires a broader look at the spacing and siting rules at another time.

Petitioners do not request approval for the proposed wells as required by the exception location rule. Since the consent and notice requirements are the same under the directional drilling rule, this makes little practical difference. Some of the wells proposed by the Petitioner are clearly proposed for a location outside of the permitted drilling area and therefore also should require an exception location approval under R649-3-3.

In the RAA, BBC states that it may subsequently seek approval to produce uphole from these wells, but that it will ask for approval at that time according to the then applicable exception location rule. Although approval of a well as an exception location at this hearing would normally be sufficient for any future production, the Division agrees that if production from the uphole portions of these wells is proposed it should not be allowed without further approval under the applicable exception location rule, because notice of this matter did not suggest that there would be production, it may be a long in the future and the owners may change, or the drainage area may be better understood later.

Recommendation:

It appears that the BBC has attempted to obtain the consent of all owners in the adjoining drilling units and have otherwise attempted to give notice to those who have not consented. Those owners have the opportunity to appear and object. Absent any objections being raised at the hearing, the Division believes that BBC has satisfied the requirements of the applicable rules and supports the request including the proposed restrictions on uphole completion.

2. In the Matter of Newfield Productions Co. RAA, Docket No. 2013-027, Cause No. 139-109; and In the Matter of the RAA of Axia Energy LLC., Docket No. 2013-030, Cause No. 270-02.

Newfield Productions Co.'s Docket No. 2013-027, Cause No. 139-109

Newfield Productions Co.'s Docket No. 2013-027, Cause No. 139-109 is a request to modify spacing for a portion of an area currently spaced to provide 640-acre drilling units with up to four (4) producing wells (either vertical or horizontal) per drilling unit.⁴ The RAA seeks approval for a pilot project to drill up to eight (8) wells (either horizontal or vertical) per drilling unit provided no well may be closer than 660 feet from a drilling unit boundary or another well without an exception location. In addition Newfield requests that the board "declare Utah Admin. Code R649-3-11(1.1) [directional drilling rule] is inapplicable to any directionally drilled well within the drilling units so long as the *productive intervals* are within the set backs . . . and with the caveat that, if an

⁴ See 139-90 Order entered on May 9, 2012

uphole completion closer that the set back is subsequently proposed, an exception location approval . . . will be required.”

This language is essentially identical to the language in Bill Barrett Corporation, Docket 2013-033, just discussed. Rather than coming to the Board after spacing and asking for approval of certain proposed wells, the RAA asks to preclude the application of the directional drilling rule for wells that are yet to be proposed. The RAA was noticed to all owners on all adjacent drilling units and so in one respect the exception location requirement of notice and hearing has been met since the Board could approve any location after notice and hearing. However, the RAA would be deficient as a directional drilling request since it doesn’t provide the distances from the drilling unit boundary, the reasons for directional drilling and the intended productive interval among other such requirements of the rule. The Board should consider the extent to which this additional information might be relevant prior to a carte blanche approval regardless of location.

This request by Newfield is unique since the operator is asking for spacing for both horizontal and vertical wells. As discussed above there are many differences in the application of the siting rules for these two types of wells. For horizontal wells the directional drilling rule does not apply, and the exception location rule applies to both the surface location and the productive interval, but allows a surface location anywhere within the lease. Therefore, it is not necessary to ask the Board to order that the directional drilling rule does not apply to the horizontal wells. What the petition appears to seek is a ruling that (1) the directional drilling rule does not apply to vertical wells, and (2) that the exception location rule does not apply to vertical wells and to surface locations for horizontal wells. The caveat to allow later application for an exception location raises the same questions as discussed in the BBC matter supra.

Recommendation.

Arguably the Board could grant the relief requested. The adjoining owners have been noticed. Production is limited to the set backs allowed under the general siting rules. However, such a practice poses some potential problems. It is possible that all drilling may not occur until long after the spacing hearing and order, and that the owners of the adjacent lands may have changed. In addition better information on the drainage pattern may be available. Do the exception location rule and directional drilling rule require that the decision be based on ownership and other conditions at the time an APD is submitted? That would be a better way to protect the correlative rights of the owners.

Short of approving the request, the Board could avoid requiring another hearing at the time well locations are known and retain some of the protections of the rules by maintaining the requirement that the operator submit an application for an exception location or directional drilling that the division can approve. If the Board felt that additional notice is required, the Board could still allow for approval of the wells by the Division provided there are no objections submitted after notice has been given.

The Axia Energy LLC's Docket No. 2013-030, Cause No. 270-02 is a request to establish 40-acre (or equivalent) drilling units and allow up to two wells per unit. The lands are currently not spaced and consist of all or part of 16 sections including many irregularly shaped sections or part sections where the lands abut the boundary of the Uinta Special Meridian survey line, and also environmentally sensitive lands located near or within the bed of the Green River and in the Ouray National Wildlife Refuge. The unusual spacing request for two wells per drilling unit is based on engineering data showing that the maximum area that can be efficiently and economically drained by one well is twenty acres, coupled with the fact that the unusual size and shape of the lands would not allow for rectangular twenty acre drilling units. In addition, the Petitioners allege the irregular shape and environmental sensitive locations will not allow normal well siting of one well per drilling unit within the 460 foot set backs and so the request for two wells per 40-acre drilling unit is requested to allow flexibility in well siting and maximize production.

Part of the RAA asks the Board to “expressly order that the directional drilling rule “is inapplicable to any directionally drilled well . . . so long as the productive intervals are within the set backs so established and with the caveat that, if an uphole completion closer than the set backs is subsequently proposed, an exception location approval . . . will be required” This set back requested is for no well to be located “closer than 460 feet to a shared drilling unit/lease boundary line and no closer than 100 feet if the adjacent lands are within the same lease and have the same production interest owners, without an exception location approval . . . required.” *Id.*

Axia alleges to have notice “those whose ‘legally protected interest’ will be affected by this Request”. *Id.* at 9. It is not clear from the exhibits if these persons include the all of the owners in the lands surrounding the lands to be spaced, or only the owners in the spaced lands. If the adjacent owners have not been given notice of this RAA, and even if they were, they would not have notice of how close a future well might be to their boundary. The Board also does not have that information at this time. The request is based on the argument that the “productive interval” will be within the set back.

Recommendation.

There are good reasons for allowing the directional drilling and exception locations, and the proposed limitation on uphole production would be a way to protect correlative rights. However, the reason for asking for a blanket exemption from the directional drilling (and exception location rules) is not clear. If the reason for this requested exemption is to avoid the costs and expense of numerous hearings, the RAA presents no evidence that owners are too numerous or so difficult to locate that consent cannot be obtained⁵. If consent can be obtained there would be little reason not to seek administrative approval and the advantage of verifying that the locations are acceptable to

⁵ Directional drilling of wells with surface locations within the set backs should not present a problem of obtaining consent of owners within 460 feet, and so an operator should not have a problem obtaining division approval when drilling is proposed.

the Division. The disadvantage is that owners of the adjoining mineral are not protected to the extent they disagree with the proposition that a productive interval exists and that any drilling outside of that “productive interval” will not affect their correlative rights. Without notice of this hearing they cannot object to this proposition, and without notice of the specific well locations they cannot object to its application. Under the proposed order a well could be commenced twenty feet from an adjoining owner and he would have no right to notice and neither he nor the Division would have a right to object to the location.

3. In the Matter of Newfield Production Company; Docket No 2013-28, Cause 139-110.

Newfield Production Company Docket No 2013-28 Cause 139-110, and request the approval for off-lease surface locations for horizontal wells. This relief is not expressly permitted by the otherwise more liberal horizontal well siting rules. The spacing petitions for such orders also do not require notice to persons other than those in the area to be spaced. Thus, the Division is presented by a question as to whether the horizontal well locations should require an exception location (which would require the written consent of the owners within 460-feet of the surface location), or if the horizontal nature of the well would justify not requiring an exception location approval provided the productive interval is within the set backs as required for the unit.

The Division has approved requests for such surface locations for horizontal well when there has been a Board order allowing them with the consent of the adjacent surface and mineral owners. It has been unclear what sort of consent these order’s required. The Division has agreed an exception location approval would not be need provided the operators have stipulated that there would be no uphole production without further approval, and agreed to placing cement casing or bottom hole packers ahead of the beginning of the productive interval. Under such orders, the Operator has been allowed to provide self-certification of the consent for the well location.

Recommendation

Since such matters continue to come before the Board, the Division believes that the Board should clarify if such off-lease (outside of drilling unit), surface locations for horizontal wells should be allowed without exception location consent (or notice and hearing), and if any additional conditions should be imposed on such well locations such as prohibiting uphole completions without exception location approval, and requiring bottom hole cement casings or plugs.